twenty-one, and in four cases it was without effect. The remaining seven cases are of too recent observation to be conclusive. It is apparently a remedy devoid of danger, and, even in the severe cases coming under the author's observation, a successful one.—*Therapeutische Monatshefte*, 1893, Heft 4, S. 156.

The following articles are worthy of notice:

"The Physiological Action of Massage upon Metabolism." DR. ANTON BUM, in the *Wiener medizinische Presse*, 1893, No. 1, S. 3. It has a diuretic effect, but the relationship to the excretion of the urinary solids is by no means proportional.

"Clinical and Experimental Contributions to the Treatment of Pulmonary Tuberculosis by Creasote." DR. ALBERT ALBU, in the *Berliner klinische Wochenschrift*, 1892, No. 51, S. 300. Creasote, even in large doses, exercises no influence on tubercle bacilli and the specific tubercular process in the lungs.

"The Nutritive Value of Asparagin." PROF. A. BALL, in *La Riforma Medica*, 1893, No. 52, p. 616. The loss of weight of animals fed upon a diet devoid of albumin, but with the addition of asparagin, is not so great as of animals dead from inanition. But this fact does not permit the conclusion that asparagin is a perfect nitrogenous food, or that it will completely take the place of albuminoids.

"Alcohol and Digitalis." DR. ERICH HARNACK, in the *Münchener medicinische Wochenschrift*, 1893, No. 9, S. 169. Digitalis should be used to improve the vascular tonus, and in the use of alcohol "individualisiren, nicht schematisiren."

MEDICINE.

UNDER THE CHARGE OF

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EMPYEMA CONSEQUENT UPON ENTERIC FEVER.

WEINTRAUD (*Berliner klin. Wochenschr.*, xxx. Jahrg., No. 15, p. 346) has reported the case of a man, nineteen years old, who had had a left-sided exudative pleurisy three years previously, in which, at the close of the second week of an attack of enteric fever, slight impairment of the pulmonary percussion resonance was noted posteriorly, which was ascribed to hypostatic congestion. Defervescence took place in the fourth week, but emaciation persisted. The temperature rose again subsequently, and the dulness on percussion at the base of the left chest posteriorly, failed to clear up, so that the existence of a pleuritic effusion was suspected. Vocal resonance was slightly enfeebled upon the lateral aspect of the left chest. Exploratory puncture disclosed the presence of pus in the left pleural cavity, in which, upon bacteriological examination, it was demonstrated that bacilli corresponding to those of enteric fever were present. In the reduced condition of the patient it was deemed best to defer operative interference. Two days after the exploratory puncture, symptoms of peritonitis (collapse, vomiting, small frequent pulse, subnormal temperature) suddenly appeared, suggesting the occurrence of rupture into the peritoneal cavity. Energetic treatment with opium was instituted, and at the end of a week the condition of the patient was much improved. The temperature was now observed to be elevated in the evening, and puncture made in the same situation as before demonstrated the presence of pus, which contained bacilli like those found in the fluid first removed, but much less virulent. Some degree of immunity to inoculation with virulent organisms was conferred upon animals treated with pus from the second puncture. The patient now entered upon convalescence, which proceeded to speedy recovery.

PULMONARY ABSCESS; INCISION; RECOVERY.

FAIRCHILD (*Chicago Clinical Review*, vol. ii., No. 23, p. 118) has reported the case of a miller, fifty-five years old, in which, after convalescence from an attack of pneumonia had apparently been established, febrile symptoms returned, with chills and cough and the expectoration of a small amount of extremely offensive matter, suggesting the existence of gangrene of the lung. Despite faithful stimulating and supporting treatment, the condition of the man grew steadily worse. The heart was found slightly displaced to the right. The pulmonary percussion resonance was found to be somewhat impaired anteriorly (it is not indicated upon which side, however) and the respiratory murmur enfeebled, while posteriorly the percussion-note was absolutely dull, and the breath-sounds could not be heard at all. Change of posture occasioned no change in the physical signs. It was concluded that a pulmonary abscess existed, and operation was determined upon. After several unsuccessful punctures the aspirating needle was introduced into the fifth intercostal space just anteriorly to the angle of the ribs, and a free flow of pus followed. With the needle as a guide, ample incision was made, and, as the ribs were too close to permit of a satisfactory entrance into the chest, the lower portion of the fifth rib was resected for a distance of about two inches. The visceral and parietal layers of the pleura were found adherent; so that after a passageway had been made by means of the fingers a dressing-forceps was introduced, the blades widely separated, and about ten ounces of pus permitted to escape. A large perforated rubber drainage-tube was introduced to the bottom of the abscess and secured to the external wound by a suture. The cavity was thoroughly irrigated with a solution of boric acid, until the fluid returned clear. Iodoform gauze was loosely packed around the tube and a generous dressing of borated gauze applied. The patient reacted well from the anæsthetic and the operation. The dressings were for a time changed daily, the discharge of pus gradually lessening. Cough and expectoration soon ceased. At the end of a year the patient was perfectly well.

THE INFLUENCE OF CARBOHYDRATES UPON THE ELIMINATION OF NITROGEN IN DIABETES.

LEO (*Zeitschrift für klin. Medicin*, Bd. xxii., Heft 3, p. 225) reports the results of a study of the relation in diabetes between the ingestion of carbohydrates and the elimination of nitrogen. It has been shown that, in the grave cases of diabetes at least, there is increased elimination of nitrogen, dependent upon excessive disintegration of the albumin of the body. It is as a result of this process that the marked wasting takes place. The therapeutic indication is, thus, not alone to overcome the elimination of sugar but also to limit or diminish the destruction of albumin. The most important measure applicable to otherwise healthy and to some sick persons, when such excessive destruction is going on, consists in the administration of non-nitrogenous food, *i. e.*, fats and carbohydrates. This conservative action of the fats has already been demonstrated. The object of this study is to establish the relation of the carbohydrates to the destruction of albumin in the body.

It is evident that only that portion of the carbohydrates which is assimilated, *i. e.*, not excreted unchanged as sugar, can diminish the destruction of albumin. It has been shown that while starch, dextrin and dextrose increase the excretion of sugar in diabetes, the other carbohydrates, and especially the celluloses, do not, but are entirely consumed. Even the starches and dextroses are, however, not excreted entirely unused and unchanged, but are in part stored up in the system. The question remains whether or not this gain is neutralized by other processes. In this connection the influence of increased elimination of sugar upon the diuresis, and the influence of this upon the elimination of nitrogen, must be considered.

For comparative purposes it was necessary to make a study of the patient under conditions as nearly normal as possible. For a day he was, therefore, placed upon a well-adjusted ordinary diet, and for the subsequent twelve or twenty-four hours the urine as it was passed was examined as to the amounts of sugar and nitrogen that it contained. On the morning of the next day the patient was given a trial meal (consisting of 75 grammes of cane-sugar, 120 grammes of "maizena," and 50 grammes of butter, boiled with 250 grammes of water to a jelly-like mass) and nothing further until the experiment was concluded. The urine thereafter passed from hour to hour was examined as to amount and proportion of sugar and nitrogen. Analysis showed that the trial meal contained only an infinitesimal amount of nitrogen. The meal thus consisted essentially of carbohydrates, fat, and water, the carbohydrates preponderating. The butter was added for the sake of palatability.

Observations upon three healthy persons showed that the ingestion of the trial meal was followed by a variable but distinct increase in the amount of nitrogen excreted in the urine, together with the elimination of an increased amount of urine. In a case of diabetes insipidus it was found that while the amount of urine excreted hourly was not inconsiderably increased, the hourly elimination of nitrogen was not increased correspondingly. It thus appears that in these observations the conservative action of the carbohydrates as concerns the disintegration of albumin is not appreciable—*i. e.*, it is neutralized by the increased elimination of nitrogen as a result of the increased secretion of urine.

Observations made on ten cases of diabetes mellitus showed that the ingestion of the trial meal was also soon followed by a considerable increase in the amount of nitrogen contained in the urine, in conjunction with the elimination of an increased amount of urine and increased amount of sugar. This increase was shortly followed by a diminution. Investigation showed further, that in general the increased elimination of nitrogen was more considerable in diabetics than in normal individuals, palpably as a result of the greater increase in the amount of urine secreted following upon increased diminution of sugar. It was noted that while in healthy individuals the amount of nitrogen eliminated hourly was smaller after the primary increase than during the preparatory treatment, this was the case in but three diabetics, while in six the diminution was much more tardy than in the normal. This difference may be ascribed to the protraction of the increase in the amount of urine secreted as a result of increased elimination of sugar. This relation can only be considered as of unfavorable significance. It was most evident in the graver cases.

These results demonstrate the dependence of the elimination of nitrogen upon the diuretic influence of the carbohydrates, but cannot be utilized directly to determine whether or not the administration of carbohydrates is attended with a conservation of the albumin of the body. For this purpose the observations would have to cover a longer period of time.

It has, however, been shown that the administration to a diabetic of increased amounts of carbohydrates, without change in bodily weight, is followed by a diminished elimination of nitrogen in the urine. While these observations indicate that in diabetes as much of the ingested carbohydrates as is absorbed prevents disintegration of the bodily albumin, actual demonstration is wanting, for it is not known how much nitrogen is eliminated in the stools.

To make good this deficiency two additional cases of diabetes mellitus were subjected to further study. For a number of days the patients were given a diet containing a known amount of nitrogen, and the quantity of urine, the amounts of sugar and nitrogen eliminated in twenty-four hours, as well as the amount of nitrogen in the stools, determined. After the ingestion and elimination of nitrogen became equal, the actual experiment was begun. Then, known quantities of "maizena" and sugar, made with water into a gelatinous mass, were additionally given; and the elimination of nitrogen was compared with that of the previous days. It was found that while the amount of urine secreted was increased, the amount of nitrogen excreted in urine and stools was not correspondingly increased. The results of these observations showed that the administration of carbohydrates to diabetics was attended with a lessening of albumin-metabolism.

The importance of these investigations in their bearing upon the treatment of diabetes must be evident. While it may not be possible in every case to have the amount of nitrogen eliminated determined, important indications may be gained from a knowledge of the body weight and the amount of urine excreted, in addition to a knowledge of the amount of sugar excreted.

A CASE OF CONGENITAL CIRRHOSIS OF THE LIVER.

NEUMANN (*Berliner klin. Wochenschr.*, Jahrg. xxx., No. 19, p. 445) has reported the case of a child that was noticed to be jaundiced on the day after birth. It was restless, cried a good deal, and took little nourishment. The stools were thin, frequent, and grayish-white in color. For a short time there was a slight increase in weight, but this was subsequently followed by a loss. The urine was free from albumin and sugar, but contained biliary coloring matter. On physical examination the liver was found to be considerably and the spleen slightly but distinctly enlarged. The family history pointed to the existence of syphilis, and a diagnosis of congenital occlusion of the biliary passages was arrived at. The child died, when almost four months old, of an attack of pneumonia. Upon post-mortem examination, in addition to icterus, enlargement of the liver and spleen, and pleuro-pneumonia, the gall-bladder was found to be small and containing no bile. The cystic and common choledoch ducts were patulous. On section, the structure of the liver was firm and slightly granular; no bile and no ducts could be seen. The acini were dark-green and separated by small grayish-white bands of connective tissue; in some places the outlines of the acini were destroyed. Microscopically, the acini were found to be diminished in size. Flakes of pigment lay between the hepatic cells. There was no diffuse infiltration within the acini. The interacinous connective tissue was greatly increased, and was constituted of embryonal tissue in which connective-tissue cells could still be seen. Within the connective tissue there was evident hyperplasia of the biliary capillaries. There were also pigment granules in the connective tissue. These changes were present in those parts of the liver in which to the naked eye the outlines of the acini were indistinct. In the slightly increased interacinous connective tissue considerable cellular infiltration was present.

TUBERCULOSIS OF THE SKIN IN CONJUNCTION WITH TUBERCULOSIS OF THE LARYNX.

KÖBNER (*Berliner klin. Wochenschr.*, Jahrg. xxx., No. 19, p. 444) has reported the case of a man, forty-three years old, who presented, an inch below the margin of the lower jaw to the right of the median line, an ulcer, of circular outline, about as large as a silver dollar, the base of which was grayish and covered in part by crusts and in part by granulations. The margins of the ulcer were flat, slightly livid, but little infiltrated, not undermined, but uneven, and marked by numerous nodules, ranging in size from a millet-seed to the head of a pin. The adjacent lymph glands were enlarged. On laryngoscopic examination, intense perichondritis of the epiglottis and arytenoids was found, with extensive ulceration of the vocal bands. Examination of sections of a portion of tissue removed from the neck disclosed the presence of tubercle bacilli and the histologic appearances of a tuberculous process.

There was no family history of tuberculosis, but ten years previously the man had lost his wife (after having been married for ten years) from tuberculosis. Three years later he was seized with hoarseness and sore-throat and was treated for tuberculosis of the larynx and lungs. He was then fairly well for four years, when he noticed a small area of ulceration below the jaw. The ulcer progressively increased in size and the man again became hoarse. There was no history of syphilis, but the man was for a considerable period of time treated actively with potassium iodide and mercury. Instead of improving, his condition continued to grow worse, until he became markedly anæmic, highly emaciated, and entirely aphonic. Locally, iodoform was dusted upon the ulcerated area, but the prognosis was considered highly unfavorable.

BRONCHIECTASIS SUCCESSFULLY TREATED BY PNEUMOTOMY.

HOFMOKL (*Wiener medicin. Presse*, Jahrg. xxxiv., No. 18, p. 681) has reported the case of a man, forty-three years old, who for five weeks had complained of slight pain in the right side of the chest, with cough that was most marked at night. There was moderate expectoration, the ejected matters as well as the breath after a short time having a most offensive odor. There was also slight febrile movement. The appetite was impaired, sleep was disturbed, emaciation was apparent. The chest was short, but broad and well arched. Respiration was short, quiet, rhythmical, and principally abdominal. The chest was a little flatter anteriorly and posteriorly on the right than on the left. The respiratory movement appeared to be symmetrical. Vocal fremitus was a little less distinct on the right anteriorly than on the left. The percussion resonance was sonorous on the right side above the clavicle; over the clavicle there was absolute dulness; in the first, second, and third intercostal spaces the resonance was almost entirely wanting, becoming manifest again externally at the mammillary line. Elsewhere the percussion sounds were normal. On auscultation the respiratory murmur was found to be vesicular in the right supra-clavicular fossa; of bronchial character in the first and second interspaces near the sternum; elsewhere in the area of impaired resonance indefinite and vesicular. Whispering pectoriloquy could be elicited between the first and second ribs. Isolated dry râles were audible in the area of dulness. The amount of expectoration increased, but no tubercle bacilli could be found in the sputum. A solution of methyl-violet injected into the second interspace at once appeared in the sputum. Bronchiectasis was diagnosticated, and, ordinary medicinal measures failing to bring relief, pneumotomy was determined upon. The patient being chloroformed, an incision about three and one-half inches long was made in the second intercostal space. With the point of the actual cautery at red heat, the lung was entered through the thickened and adherent layers of the pleura. Less than a drachm of putrid, offensive pus escaped. There was no escape of air. A sound passed a distance of a little more than an inch into the depth of the lung. The hemorrhage was insignificant. The wound was drained, packed with gauze, and covered with a protective dressing. The expectoration at once diminished decidedly, and the sputum in a short time lost its offensive odor. In the course of the treatment, air was on coughing expelled through the opening. There was progressive improvement in both the local and the general condition, until recovery ensued.

SURGERY.

UNDER THE CHARGE OF

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TOTAL EXTIRPATION OF POPLITEAL ANEURISMS.

MEINHARD SCHMIDT advocates, in the *Archiv für klinische Chirurgie*, 1893, Bd. xxiv., Heft 4, the extirpation of popliteal aneurisms. The aneurism is to be removed exactly as if it were a tumor. The advantages over the Antyllean method, which is the next most radical, is that no unnecessary part of the diseased vessel is left behind, which might become the seat of suppurative processes.

In the forearms and legs, where there are two main vessels of supply, and the chance for a good collateral circulation is very favorable, the radical method is the operation of choice.

The author details a case in which he excised a popliteal aneurism from each leg of a patient. The most tedious part of the operation, in nearly every case, is the separation of the vein from the artery. The integrity of the vein should be maintained if it is possible.

The author prefers packing and secondary sutures, to be tied in forty-eight hours.

In the twelve cases collected by the author (including his own), the results have been very favorable. Gangrene did not occur; even an accidental cut of the vein had no unfavorable influence upon the establishment of collateral circulation.

ON THE TREATMENT OF SPINAL ABSCESS.

WATSON CHEYNE, in an address before the British Medical Association (*British Medical Journal*, 1892, No. 1670), briefly reviews the older methods of operating, and speaks in considerable detail of the modern antiseptic methods. It is well known that the opening of these abscesses in the pre-antiseptic period was almost surely followed by profuse suppuration, rapid wasting of the patient, and frequently death. As a consequence, at that time surgeons unanimously advised against operation.